Remarks

This amendment is in response to the office action mailed on February 9, 2007. It is understood that no fees are necessary in connection with this Amendment. However, in the event any fees are due, kindly charge the cost thereof to our Deposit Account No. 13-2855.

Claim Objections

Claim 30 was objected to because the language "the measured print efficiency" lacked antecedent basis. In response, claim 30 has been amended to depend from claim 29, which provides antecedent basis for the measured print efficiency, instead of claim 28.

Allowable Claims

The Examiner's statement that Claims 31 and 32 are allowable in independent form is noted with appreciation. Said claims are presently amended accordingly.

Claim Rejections

The Examiner has rejected Claims 25-26, 33-34 and 37 under 35 U.S.C. § 102 as allegedly being anticipated by Mantel et al.; the Applicant respectfully traverses the rejection.

The Applicant's printer and method achieves improved print quality through redundancy in both the processing of the print data and the formation of the printed pixels. Conventionally, each print data pixel causes the formation of a single dot in a single specific area on the substrate – a print pixel. Further, these dots do not extend into adjacent print pixels, unless by an error in dot placement on the substrate. However, according to the Applicant's disclosure, a distribution function is applied to the print data pixels so that instead of the data of each pixel contributing to a single dot, the data of two or more print data pixels contributes to a super pixel. Each super pixel may, for example, be an elongate drop formed by the ejection of two smaller droplets from two nozzles under the influence of a single inkjet actuator as shown in Figure 5. These super pixels do extend into more than one print pixel on the substrate so that pixels of the image formed on the substrate receive print contributions from at least two super pixels. Therefore, in the event of one of the super pixels failing to be printed, another super pixel will provide print to the pixels, thus avoiding a completely blank pixel; oftentimes this will occur when an actuator fails during printing, leaving a line of blank pixels. The Applicant's printer and method ameliorates this problem through this redundancy in the printing operation.

In more detail, the claims recite that 'each super pixel receives a print data contribution from at least two print data pixels' (emphasis added) and that 'each print pixel receives print contribution from at least two super pixels' (emphasis added). It should be noted that there is a functional difference between a print data contribution and a print contribution, hence the different terminology. To contribute print data implies a processing involving the print data itself and not merely the physical overlap on the page of ink dots formed by the print data as is disclosed in Mantel et al. By contrast, the meaning of a print contribution relates to a physical contribution of print and may include the overlap of ink dots on the page.

The language of the claims indicates that the contribution of print data is effected by a distribution function and the contribution of print is effected by forming print pixels on the medium; thus, this is the only logically consistent meaning of the terms. It is respectfully denied that the overlap of the pairs of dots in Figure 12 of Mantel et al. is the result of a distribution function: it clearly results from nothing more than the spatial proximity of the nozzles

Further, this difference in meanings is essential to the operation of the Applicant's claims, as redundancy is added to the printing operation on two levels. Firstly, a print data pixel contributes data to at least two super pixels so that if one of the super pixels fails to be printed the print data pixel is still represented in the image by another super pixel. Secondly, a printed pixel receives print contributions from at least two super pixels so that failure to print of one of the super pixels does not result in a gap in the image.

Mantel et al. offers neither of these advantages: each actuator prints several small ink dots by having several nozzles rather than one large dot using a single nozzle (c.f. Figures 2 and 5), the aim being to ensure complete ink coverage with less ink (Column 7, lines 10-25). In particular, it should be noted that failure of one of the nozzles or actuators of Mantel. et al. would necessarily lead to a gap in the printed image in contrast to the present invention.

Therefore, Mantel et al. neither teaches nor suggests the claimed invention, the remaining claims being allowable at least by virtue of dependency. It is believed that the rejections under §103 are moot in view of the foregoing, favorable reconsideration is thus solicited.

CONCLUSION

In view of the foregoing, allowance of all claims 25-37 presented here above is solicited.

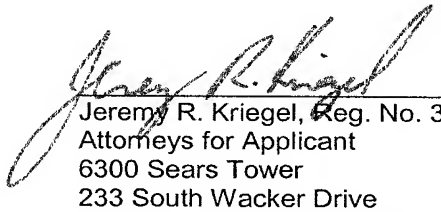
Should the examiner wish to discuss the foregoing, or any matter of form or procedure in an effort to advance this application to allowance, the examiner is urged to contact the undersigned attorney.

In the event any additional fees are necessary, kindly charge the cost thereof to our Deposit Account No. 13-2855.

Respectfully submitted,

MARSHALL, GERSTEIN & BORUN LLP

May 07, 2007



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